

ENGINEERING STATEMENT
DISPLACEMENT CONSTRUCTION PERMIT
MODIFICATION APPLICATION
ON BEHALF OF
LOCKE SUPPLY CO.
KXOC-LP, OKLAHOMA CITY, OKLAHOMA
CHANNEL 41(Z) 48.8 KW ERP

JUNE 2003

COHEN, DIPPELL AND EVERIST, P.C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D.C.

INTRODUCTION

This construction permit modification application is being filed on behalf of Locke Supply Co., licensee of Low Power Television (LPTV) station KXOC-LP, Oklahoma City, Oklahoma in support of a displacement application for KXOC-LP. The existing KXOC-LP facility is being displaced by the auction of the Lower 700 MHz frequencies. This displacement construction permit modification application proposes to change the operating channel of KXOC-LP from Channel 54 to Channel 41.

TRANSMITTER SITE

The proposed operation will remain on the same tower as the current authorization. The transmitting tower is located at the coordinates seen below and is designated by FCC tower registration number 1045226. The tower is located at the corner of Kelly Avenue and 122nd Street, Oklahoma City, Oklahoma.

North Latitude: 35° 35' 52"

West Longitude: 97° 29' 22"

NAD-27

ELEVATION DATA

Elevation of site above mean sea level	336.4 Meters
Center of radiation of antenna above ground	305.0 Meters
Center of radiation of antenna above mean sea level	641.4 Meters
Overall tower height above ground level	501.3 Meters
Overall tower height above mean sea level	837.7 Meters

ALLOCATION AND INTERFERENCE ANALYSIS

An allocation and interference analysis was performed for the proposed operation of KXOC-LP. The proposed operation causes prohibited contour overlap to the stations found in Table 1 below. Although each of the stations listed below receive prohibited contour overlap, the interference has been evaluated using OET Bulletin No. 69 Longley-Rice methodology as permitted by §74.706 for DTV stations, §74.705(e) for Television stations, and §74.707(e) for Low Power Television Stations. The results from the Longley-Rice evaluation are included in Table 1.

TABLE 1: LIST OF STATIONS RECEIVING PROHIBITED CONTOUR OVERLAP FROM PROPOSAL

<u>CALL</u>	<u>FILE NO.</u>	<u>CITY/STATE</u>	<u>CHANNEL</u>	<u>NEW IX</u>
N/A	BPET-19970331SF	ENID, OK	26	0.01%
KAUT-DT	BPRM-20000328ABD	OKLAHOMA CITY, OK	40	0.00%
K41DS	BLTT-19940902IM	WEATHERFORD, OK	41	0.00%
KTFO-TV	BLCT-19810323KF	TULSA, OK	41	0.01%
KAUT-DT	ALLOTMENT	OKLAHOMA CITY, OK	42	0.00%

As detailed in Table 1 above, the proposal creates less than 0.50% new interference to each of the impacted stations and is compliant with the Commission's Rules. Therefore, Locke Supply Co. formally requests a waiver of the applicable interference protection rules by use of Longley-Rice methodology to all facilities included in Table 1.

RADIO FREQUENCY FIELD LEVEL

An evaluation of the Radio Frequency Fields around the base of the tower has been completed with information from the Commission's Consolidated Database System (CDBS) dated June 10, 2003. A search of the database returned a list of eight other FM and TV transmitters operating within 500 meters

of the base of the tower. However, there are not any AM stations within 3.2 kilometers. A list of the existing FM and TV stations has been included below in Table 2. The total existing Radio Frequency Field level has been computed at the base of the tower using information from Table 2. An antenna factor of 0.400 from the FM facilities is an estimate, and is considered to be conservative for the purposes of computing the existing RFF levels.

Table 2: List of Operating FM and TV Stations Within 500 Meters

<u>CALLSIGN</u>	<u>ERP (kW)</u>	<u>RCAGL</u>	<u>FILE NO.</u>	<u>ANTENNA FACTOR</u>
KHBZ-FM	94.9	381 Meters	BLH-20000105AAN	0.400
KXXY-FM	94.9	381 Meters	BLH-20000105AAO	0.400
KTST(FM)	94.4	381 Meters	BLH-20000105ABI	0.400
KJYO(FM)	94.1	381 Meters	BLH-20000105AAS	0.400
KFOR-DT	352.0	491 Meters	BLCDT-19991207AAL	0.046
KSBI(TV)	3020.0	471 Meters	BLCT-20001204AIT	0.046
KSBI-DS	360.9	469 Meters	BDSTA-20020828ABB	0.046
KOPX-DT	200.0	493 Meters	BLCDT-20021108ABC	0.046

The total RFF existing around the base of the tower is approximately $28.9\mu\text{W}/\text{cm}^2$, which is approximately 3.5% of the controlled exposure limit and 17.8% of the uncontrolled exposure limit. The proposed LPTV operation of KXOC-LP on Channel 41 will introduce an additional $1.67\mu\text{W}/\text{cm}^2$. This level is 0.08% of the controlled limit and 0.40% of the uncontrolled limit. The total sum of RFF level calculated to exist at the base of the tower is $30.6\mu\text{W}/\text{cm}^2$ which is approximately 3.6% of the controlled exposure limit and 18.2% of the uncontrolled limit. This level is well within the limits set forth in OET Bulletin 65.

The proposed operation based upon the current OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A meets the provisions of the FCC radio frequency field guidelines, and thus, complies with Section 1.1307 of the FCC Rules.

An environmental assessment (EA) is categorically excluded since the applicant indicates:

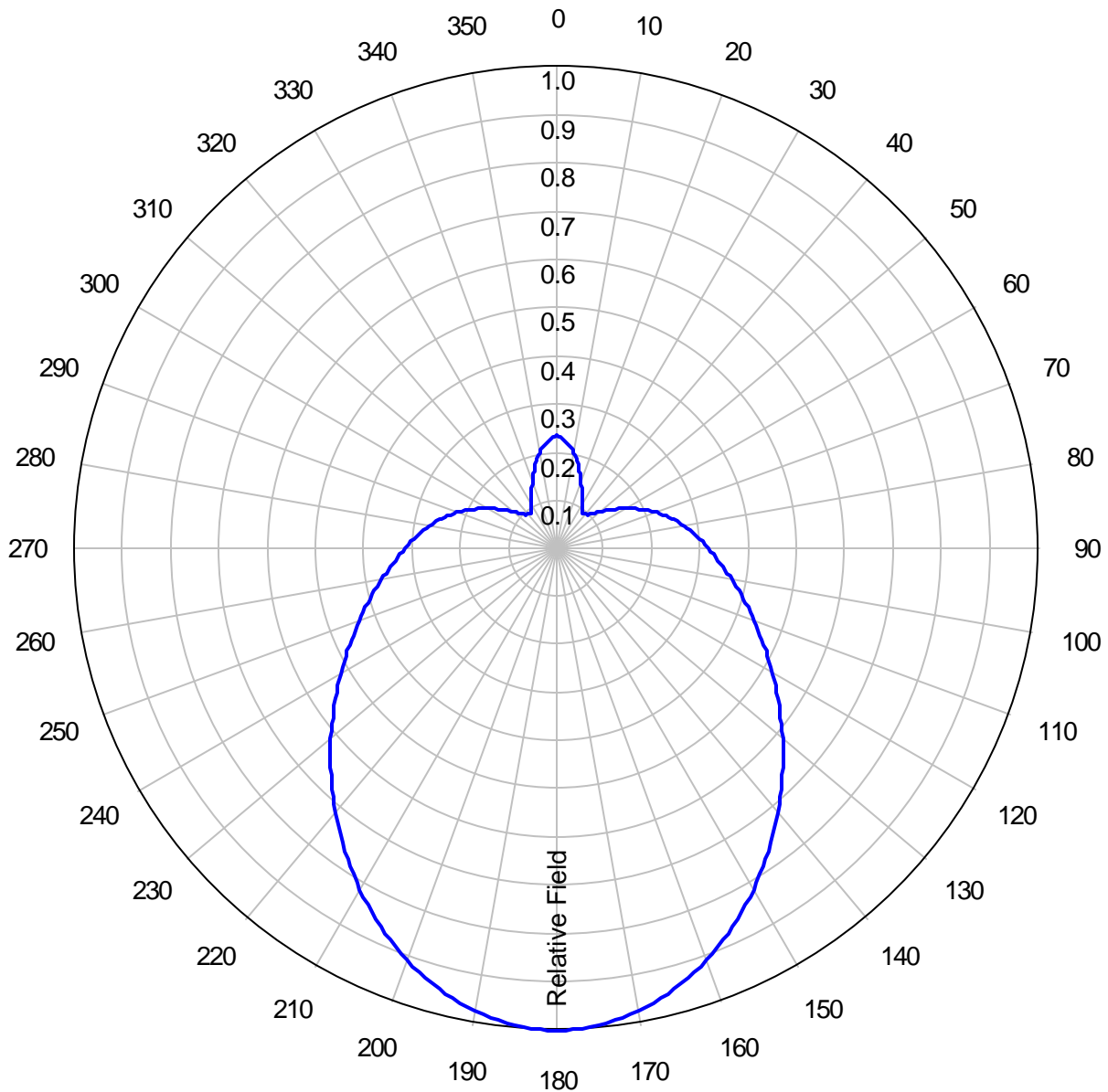
- (a)(1) The existing site is not located in an officially designated wilderness area.
- (a)(2) The existing site is not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
- (a)(4) The proposed facilities will not affect any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering or culture.
- (a)(5) The existing site is not located near any known Indian religious sites.
- (a)(6) The existing site is not located in a flood plain.
- (a)(7) The installation of the new antenna on the tower will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) It is not proposed to change the current lighting on the tower.
- (b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines. Authorized personnel will be alerted to areas of the antennas where potential radiation is in excess of the FCC guidelines. A security fence with a locked gate deters unauthorized access to the tower site.

APPENDIX A
TECHNICAL EXHIBITS

**ANDREW®****AZIMUTH PATTERN**

Type: ALP-N

	Numeric	dBd
Directivity:	<u>3.77</u>	<u>5.76</u>
Peak(s) at:	<u></u>	
Polarization:	<u>Horizontal</u>	
Channel:	<u>41</u>	
Location:	<u></u>	
Note:	<u></u>	



ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A 60462

**ANDREW®****AZIMUTH TABULATED DATA**Type: ALP-NPolarization: Horizontal

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
0	0.236	-12.54	92	0.325	-9.76	184	0.993	-0.06	276	0.287	-10.84
2	0.232	-12.69	94	0.335	-9.50	186	0.988	-0.10	278	0.279	-11.09
4	0.226	-12.92	96	0.346	-9.22	188	0.981	-0.17	280	0.269	-11.40
6	0.220	-13.15	98	0.357	-8.95	190	0.972	-0.25	282	0.260	-11.70
8	0.212	-13.47	100	0.368	-8.68	192	0.962	-0.34	284	0.250	-12.04
10	0.202	-13.89	102	0.380	-8.40	194	0.950	-0.45	286	0.241	-12.36
12	0.192	-14.33	104	0.393	-8.11	196	0.936	-0.57	288	0.231	-12.73
14	0.181	-14.85	106	0.406	-7.83	198	0.922	-0.71	290	0.221	-13.11
16	0.169	-15.44	108	0.421	-7.51	200	0.906	-0.86	292	0.211	-13.51
18	0.159	-15.97	110	0.435	-7.23	202	0.889	-1.02	294	0.200	-13.98
20	0.147	-16.65	112	0.450	-6.94	204	0.872	-1.19	296	0.189	-14.47
22	0.137	-17.27	114	0.466	-6.63	206	0.853	-1.38	298	0.179	-14.94
24	0.127	-17.92	116	0.483	-6.32	208	0.834	-1.58	300	0.168	-15.49
26	0.118	-18.56	118	0.499	-6.04	210	0.815	-1.78	302	0.158	-16.03
28	0.110	-19.17	120	0.517	-5.73	212	0.795	-1.99	304	0.148	-16.59
30	0.104	-19.66	122	0.535	-5.43	214	0.775	-2.21	306	0.138	-17.20
32	0.099	-20.09	124	0.553	-5.15	216	0.754	-2.45	308	0.129	-17.79
34	0.095	-20.45	126	0.571	-4.87	218	0.734	-2.69	310	0.120	-18.42
36	0.093	-20.63	128	0.591	-4.57	220	0.713	-2.94	312	0.113	-18.94
38	0.093	-20.63	130	0.611	-4.28	222	0.692	-3.20	314	0.106	-19.49
40	0.094	-20.54	132	0.631	-4.00	224	0.671	-3.47	316	0.101	-19.91
42	0.096	-20.35	134	0.651	-3.73	226	0.651	-3.73	318	0.096	-20.35
44	0.101	-19.91	136	0.671	-3.47	228	0.631	-4.00	320	0.094	-20.54
46	0.106	-19.49	138	0.692	-3.20	230	0.611	-4.28	322	0.093	-20.63
48	0.113	-18.94	140	0.713	-2.94	232	0.591	-4.57	324	0.093	-20.63
50	0.120	-18.42	142	0.734	-2.69	234	0.571	-4.87	326	0.095	-20.45
52	0.129	-17.79	144	0.754	-2.45	236	0.553	-5.15	328	0.099	-20.09
54	0.138	-17.20	146	0.775	-2.21	238	0.535	-5.43	330	0.104	-19.66
56	0.148	-16.59	148	0.795	-1.99	240	0.517	-5.73	332	0.110	-19.17
58	0.158	-16.03	150	0.815	-1.78	242	0.499	-6.04	334	0.118	-18.56
60	0.168	-15.49	152	0.834	-1.58	244	0.483	-6.32	336	0.127	-17.92
62	0.179	-14.94	154	0.853	-1.38	246	0.466	-6.63	338	0.137	-17.27
64	0.189	-14.47	156	0.872	-1.19	248	0.450	-6.94	340	0.147	-16.65
66	0.200	-13.98	158	0.889	-1.02	250	0.435	-7.23	342	0.159	-15.97
68	0.211	-13.51	160	0.906	-0.86	252	0.421	-7.51	344	0.169	-15.44
70	0.221	-13.11	162	0.922	-0.71	254	0.406	-7.83	346	0.181	-14.85
72	0.231	-12.73	164	0.936	-0.57	256	0.393	-8.11	348	0.192	-14.33
74	0.241	-12.36	166	0.950	-0.45	258	0.380	-8.40	350	0.202	-13.89
76	0.250	-12.04	168	0.962	-0.34	260	0.368	-8.68	352	0.212	-13.47
78	0.260	-11.70	170	0.972	-0.25	262	0.357	-8.95	354	0.220	-13.15
80	0.269	-11.40	172	0.981	-0.17	264	0.346	-9.22	356	0.226	-12.92
82	0.279	-11.09	174	0.988	-0.10	266	0.335	-9.50	358	0.232	-12.69
84	0.287	-10.84	176	0.993	-0.06	268	0.325	-9.76	360	0.236	-12.54
86	0.297	-10.54	178	0.997	-0.03	270	0.316	-10.01			
88	0.306	-10.29	180	1.000	0.00	272	0.306	-10.29			
90	0.316	-10.01	182	0.997	-0.03	274	0.297	-10.54			



ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A 60462

**ANDREW®****AZIMUTH PATTERN
FCC FILING FORMAT**Type: ALP-NPolarization: Horizontal

<i>Angle</i>	<i>Field</i>	<i>ERP (kW)</i>	<i>ERP (dBk)</i>
0	0.236	8.354	9.219
10	0.202	6.121	7.868
20	0.147	3.241	5.107
30	0.104	1.622	2.102
40	0.094	1.325	1.223
50	0.120	2.160	3.345
60	0.168	4.234	6.267
70	0.221	7.326	8.649
80	0.269	10.854	10.356
90	0.316	14.978	11.755
100	0.368	20.313	13.078
110	0.435	28.384	14.531
120	0.517	40.093	16.031
130	0.611	55.998	17.482
140	0.713	76.255	18.823
150	0.815	99.633	19.984
160	0.906	123.125	20.903
170	0.972	141.717	21.514
180	1.000	149.999	21.761
190	0.972	141.717	21.514
200	0.906	123.125	20.903
210	0.815	99.633	19.984
220	0.713	76.255	18.823
230	0.611	55.998	17.482
240	0.517	40.093	16.031
250	0.435	28.384	14.531
260	0.368	20.313	13.078
270	0.316	14.978	11.755
280	0.269	10.854	10.356
290	0.221	7.326	8.649
300	0.168	4.234	6.267
310	0.120	2.160	3.345
320	0.094	1.325	1.223
330	0.104	1.622	2.102
340	0.147	3.241	5.107
350	0.202	6.121	7.868

ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A 60462

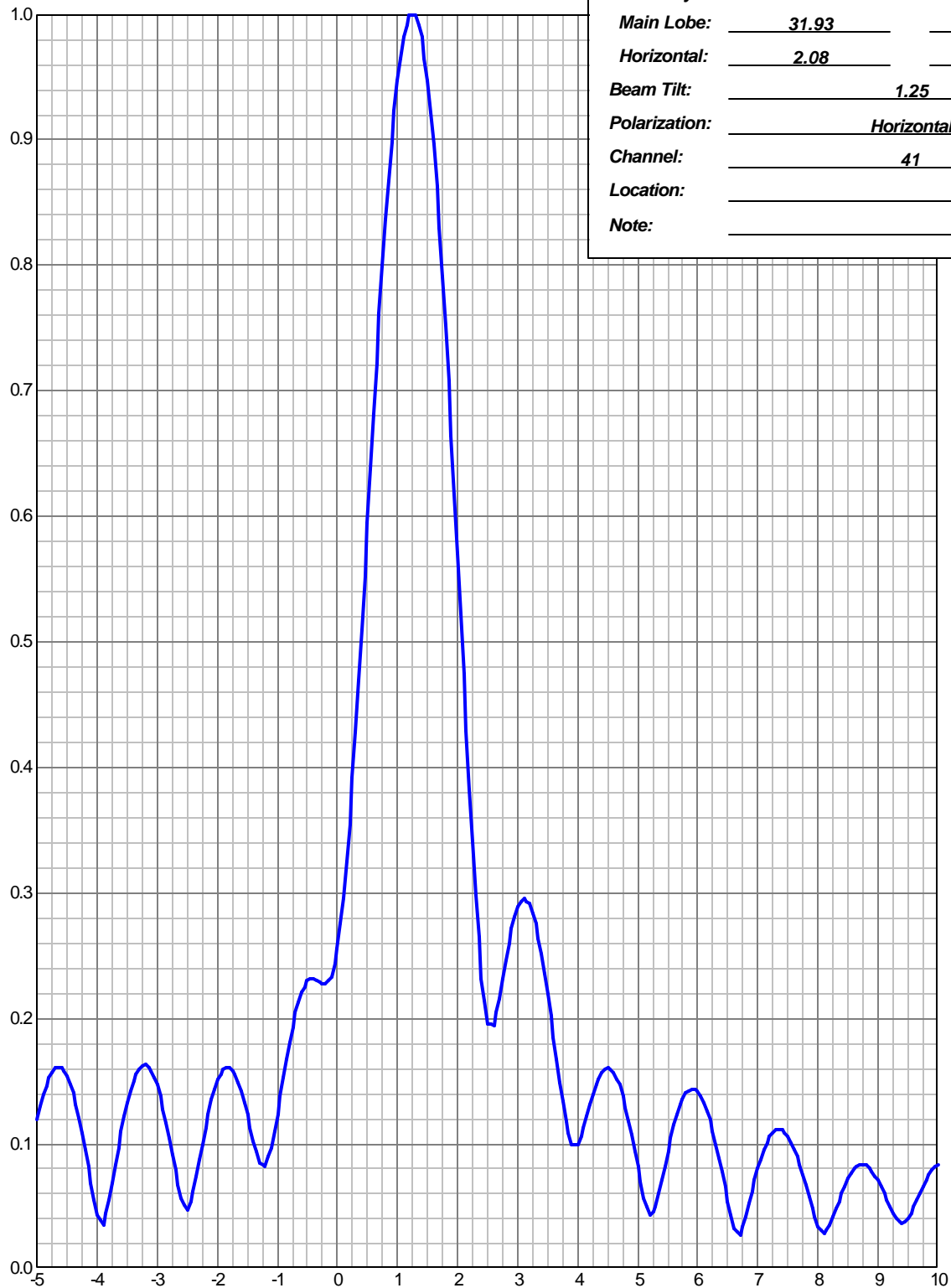


ANDREW®

ELEVATION PATTERN

Type:	ALP32	
Directivity:	Numeric	dBd
Main Lobe:	31.93	15.04
Horizontal:	2.08	3.17
Beam Tilt:	1.25	
Polarization:	Horizontal	
Channel:	41	
Location:		
Note:		

Relative Field



ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A 60462

**ANDREW®****ELEVATION TABULATED DATA**Type: ALP32Polarization: Horizontal

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-5.00	0.120	-18.42	6.50	0.054	-25.35	42.00	0.007	-43.10	88.00	0.005	-46.02
-4.75	0.157	-16.08	6.75	0.035	-29.24	43.00	0.026	-31.70	89.00	0.003	-50.46
-4.50	0.154	-16.25	7.00	0.081	-21.83	44.00	0.006	-44.44	90.00	0.000	0.00
-4.25	0.109	-19.29	7.25	0.109	-19.29	45.00	0.017	-35.39			
-4.00	0.043	-27.33	7.50	0.106	-19.49	46.00	0.007	-43.10			
-3.75	0.069	-23.22	7.75	0.075	-22.50	47.00	0.011	-39.17			
-3.50	0.133	-17.52	8.00	0.034	-29.37	48.00	0.007	-43.10			
-3.25	0.162	-15.84	8.25	0.042	-27.64	49.00	0.011	-39.17			
-3.00	0.147	-16.65	8.50	0.072	-22.85	50.00	0.039	-28.18			
-2.75	0.092	-20.72	8.75	0.083	-21.62	51.00	0.027	-31.37			
-2.50	0.047	-26.56	9.00	0.071	-22.97	52.00	0.027	-31.37			
-2.25	0.100	-20.00	9.25	0.045	-26.94	53.00	0.033	-29.63			
-2.00	0.151	-16.42	9.50	0.040	-27.96	54.00	0.018	-34.89			
-1.75	0.158	-16.03	9.75	0.066	-23.61	55.00	0.032	-29.90			
-1.50	0.123	-18.20	10.00	0.084	-21.51	56.00	0.011	-39.17			
-1.25	0.084	-21.57	11.00	0.138	-17.20	57.00	0.038	-28.40			
-1.00	0.124	-18.13	12.00	0.203	-13.85	58.00	0.033	-29.63			
-0.75	0.193	-14.29	13.00	0.035	-29.12	59.00	0.016	-35.92			
-0.50	0.230	-12.77	14.00	0.011	-39.17	60.00	0.045	-26.94			
-0.25	0.228	-12.84	15.00	0.006	-44.44	61.00	0.028	-31.06			
0.00	0.255	-11.87	16.00	0.005	-46.02	62.00	0.024	-32.40			
0.25	0.391	-8.15	17.00	0.025	-32.04	63.00	0.045	-26.94			
0.50	0.595	-4.51	18.00	0.030	-30.46	64.00	0.028	-31.06			
0.75	0.799	-1.95	19.00	0.011	-39.17	65.00	0.037	-28.64			
1.00	0.948	-0.46	20.00	0.033	-29.63	66.00	0.062	-24.15			
1.25	1.000	0.00	21.00	0.054	-25.35	67.00	0.062	-24.15			
1.50	0.947	-0.47	22.00	0.105	-19.58	68.00	0.100	-20.00			
1.75	0.791	-2.04	23.00	0.234	-12.62	69.00	0.176	-15.09			
2.00	0.571	-4.87	24.00	0.095	-20.45	70.00	0.235	-12.58			
2.25	0.341	-9.34	25.00	0.059	-24.58	71.00	0.247	-12.15			
2.50	0.196	-14.15	26.00	0.017	-35.39	72.00	0.214	-13.39			
2.75	0.231	-12.73	27.00	0.017	-35.39	73.00	0.153	-16.31			
3.00	0.289	-10.78	28.00	0.014	-37.08	74.00	0.088	-21.11			
3.25	0.283	-10.96	29.00	0.002	-53.98	75.00	0.044	-27.13			
3.50	0.220	-13.15	30.00	0.000	0.00	76.00	0.043	-27.33			
3.75	0.134	-17.49	31.00	0.004	-47.96	77.00	0.053	-25.51			
4.00	0.100	-20.00	32.00	0.007	-43.10	78.00	0.052	-25.68			
4.25	0.139	-17.14	33.00	0.024	-32.40	79.00	0.043	-27.33			
4.50	0.161	-15.86	34.00	0.057	-24.88	80.00	0.031	-30.17			
4.75	0.138	-17.20	35.00	0.155	-16.19	81.00	0.021	-33.56			
5.00	0.082	-21.72	36.00	0.112	-19.02	82.00	0.013	-37.72			
5.25	0.047	-26.65	37.00	0.045	-26.94	83.00	0.011	-39.17			
5.50	0.094	-20.54	38.00	0.044	-27.13	84.00	0.010	-40.00			
5.75	0.136	-17.33	39.00	0.033	-29.63	85.00	0.010	-40.00			
6.00	0.142	-16.95	40.00	0.013	-37.72	86.00	0.009	-40.92			
6.25	0.110	-19.21	41.00	0.034	-29.37	87.00	0.007	-43.10			

ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A 60462

